REMARKS/ARGUMENTS

Reconsideration of this application is requested. Claims 6-9 will be active in the application subsequent to entry of this Amendment.

The application as filed included four product claims and one process claim. The claims have been revised and directed to a process for producing a rotogravure coated paper. As both product and process claims have been examined on the merits, it is appropriate to direct all claims to a process while not disturbing unity of invention.

In the new claims, claims 1 and 5 are canceled, and the process claim 5 is converted to new claim 6 to which the requirement "said process comprising the step of coating said base paper with a coating color comprising said pigments and said adhesive at coating speed of 1000 m/min or more" is added.

This requirement is supported by the description appearing in lines 22-24, page 13 of the specification. Example 4 corresponds to new claim 6. Table 1 of the specification shows that a rotogravure coated paper produced in accordance with Example 4 has good properties.

The specification states in lines 3-10, page 7, as follows:

> "Especially when the hollow sphere synthetic pigment having a small particle diameter as defined above is combined with the inorganic pigment having a volume-based distribution in which 65% or more of particles are in the particle diameter range of 0.4-4.2 μm and contained in an amount of 2-30 parts by weight per 100 parts by weight of the inorganic pigment, the coating color has an optimized viscosity and further improved runnability."

As a result, as stated in new claim 6, it becomes possible to coat a base paper with the coating color at coating speed of 1000 m/min or more. None of the cited documents discloses this feature.

The Official Action includes three prior art-based rejections in items 4, 9 and 14.

In cited document 1 (JP-A 2002-88679; Kai et al), the only disclosure relating to coating speed appears in Example 1, reading "both sides of the base paper were coated with coating color in an amount of 12g/m^2 at coating speed of 500m/min with a blade coater". (Please see the attached English translation of Example 1 of cited document 1.)

In cited document 4 (JP-A 11-279990; Sasaki et al), the only disclosure relating to coating speed, 800 m/min, appears in Example 1. (Please see the attached English translation of Example 1 of cited document 4.)

None of cited document 2 (JP-A 2002-161494; Matsumura et al), cited document 3 (JP-A 2001-288690; Ryu), cited document 5 (JP-A 3-82897; Hirose et al) and cited document 6 (JP-A 6-235194; Hayashi et al) discloses coating speed.

For the above reasons it is respectfully submitted that the claims of this application define inventive subject matter. Reconsideration and allowance are solicited.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: _____
Arthur R. Crawford
Reg. No. 25,327

ARC:eaw
901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100

(Translation)

Cited Document 1

JP-A 2002-88679 (P2002-88679A)

Date of Publication: arch 27, 2002

Application No.: 000-270835 (P2000-270835)

Date of Application: eptember 6, 2000

Inventors: idehiko KAI, Koji OKAGO, Chizuru WAKAI and Hiroichi MORII

Applicant: Nippon Paper Industries Co., Ltd.

[Example 1]

[Preparation of Coating Fluid] To a pigment composed of 80 parts (by weight) of engineered kaolin (a product of Engelhard Corporation, "ECLIPS 650", volume distribution particle size of 0.40 to 4.20 μm: 66.0%), and 20 parts of fine particle ground calcium carbonate (a product of Fimatic Ltd., "FMT-90", volume distribution particle size of 0.40 to 4.20 μm: 66.3%), 0.2 part of sodium polyacrylate based on the pigment as a dispersing agent was added and the resulting mixture was dispersed by a "Serie Mixer" to prepare a pigment slurry having a solid content concentration of 70%. To the pigment slurry thus obtained, 0.2 part of a non-associative type acrylic synthetic water retention agent and 6 parts of a gravure styrene-butadiene copolymer latex A having a glass transition temperature of -40ºC were added, and furthermore water was added thereto to obtain a coating fluid having a solid content concentration of 63%.

[Base Paper] Medium-quality paper containing 30 weight% of mechanical pulp as paper making pulp and having a basis weight of 42 g/m^2 was used as coating base paper.

[Production of Coated Paper] The above described coating fluid (color) was coated on both surfaces of the above described base paper at a coating rate of 500 m/min by a blade coater in such a manner that the coating amount per one surface came to 12 g/m^2.

[Calendering] The coated paper thus obtained was subjected to super calender treatment under the conditions of a roll temperature of 62°C, two nips, a calender linear pressure of 150 kg/cm and a paper-passing rate of 10 m/min to obtain coated paper for gravure printing.

(Translation)

Cited Document 4

JP-A H11-279990

Date of Publication: October 12, 1999

Application No.: H10-85882

Date of Application: March 31, 1998

Inventors: Fujio SASAKI, Hisashi MAKAMURA and Kunio SUZUKI

Applicant: Mitsubishi Paper Mills Ltd.

[0041]

[Example 1]

[Production of Base paper] A pulp slurry obtained by adding 5 parts (by weight) of precipitated calcium carbonate, 0.1 part of a commercially available alkylketene dimmer internal sizing agent, 0.2 part of a commercially available cationic starch and 0.03 part of a commercially available cationic polyacrylamide retention aid to pulp composed of 50 parts of LBKP, 20 parts of NBKP and 30 parts of GP was subjected to papermaking in such a manner that the basis weight came to 70 g/m^2, and a starch aqueous solution was coated on the obtained paper in an amount of 2 g/m^2 per both surfaces by a size press, and then subjected to calendering while the linear pressure was adjusted by an on-machine calender in such a manner that the smoothness by a "Smoothter" came to 82 kPa to obtain base paper.

[0042] [Preparation of Coating Fluid] In accordance with the following compounding amounts, a coating fluid having a solid content concentration of 60% was prepared.

(Formulation of Coating Fluid)

Commercially available second-grade kaolin average particle diameter 2.9 μm	90 parts (by weight)
Commercially available hollow particles HP1055	10 parts

Commercially available polyacrylic acid dispersing agent (a product of Toagosei Chemical Industry Co., Ltd., T-40) 0.1 part

Commercially available nonalkali thickening type styrene-butadiene latex (a product of Asahi Chemical Industry Co., Ltd., L1301) 9 parts

Commercially available starch esterified with phosphoric acid (a product of Nihon Shokuhin Kako Co., Ltd., MS4600) 1.0 part

Calcium stearate 0.4 part

Calcium hydroxide: adjusted to pH 9.5

[0043] [Preparation of Coated Paper] The above described coating fluid was coated on the above described coating base paper with the use of a flooded nip-type blade coater (manufactured by Mitsubishi Heavy Industries, Ltd.) at a coating rate of 800 m/min by the bevel blade system in such a manner that the coating amount per one surface came to 14 g/m^2 and dried to prepare coated paper.

[0044] [Super Calender Treatment of Coated Paper] The coated paper was treated with a super calender under the following conditions.

<Conditions of Super Calender>

- Number of stages: 12 stages
- Rigid roll: chilled roll, outer diameter 400 mm
- Filling roll: cotton roll, outer diameter 420 mm
- Treating rate: 400 m/min
- Linear pressure: 200 kg/cm

[0045] The product after the super calender treatment was subjected to humidity conditioning at 20°C at a relative humidity of 65%, and thereafter the gravure printability and the paper properties were measured. The formulation and the quality were shown in the following Table 1. Further, the

nonalkali thickening styrene-butadiene latex was an SB latex in the Table.

Table 1

Example	1
Hollow Pigment (ratio of hollowness) HP1050 (55%) (parts by weight) <weight%> OP84J (25%) (parts by weight) <weight%>	 1.0 <9.1> - <->
Second-grade Kaolin (parts by weight)	90
SB Latex L1301 (parts by weight) (nonalkali thickening type) Starch Esterified with Phosphoric Acid (parts by weight) MS4600 <weight%>	 9 1 <0.91>
High-shear Viscosity Pa·s Blade Coater Aptitude	75 4
Density g/cm^3 Smoothness kPa White Paper Glossiness % Causing Dotting Miss	1.17 1.0 75 5